

Tully River Catchment

Catchment Information

Description

Area (km ²)	1683
% Gauged	88
Mean Discharge Yr (km ³)	3.3
Rainfall (mm)	2855
Runoff (mm/m ²)	1954
Runoff/Rainfall Ratio	68

Land Use

Population	5585
Clearing (km ²)	256
% Cleared	15
Area under Grazing (km ²)	316
Area under Sugar (km ²)	247
Area under Horticulture (km ²)	26

Pesticide Application

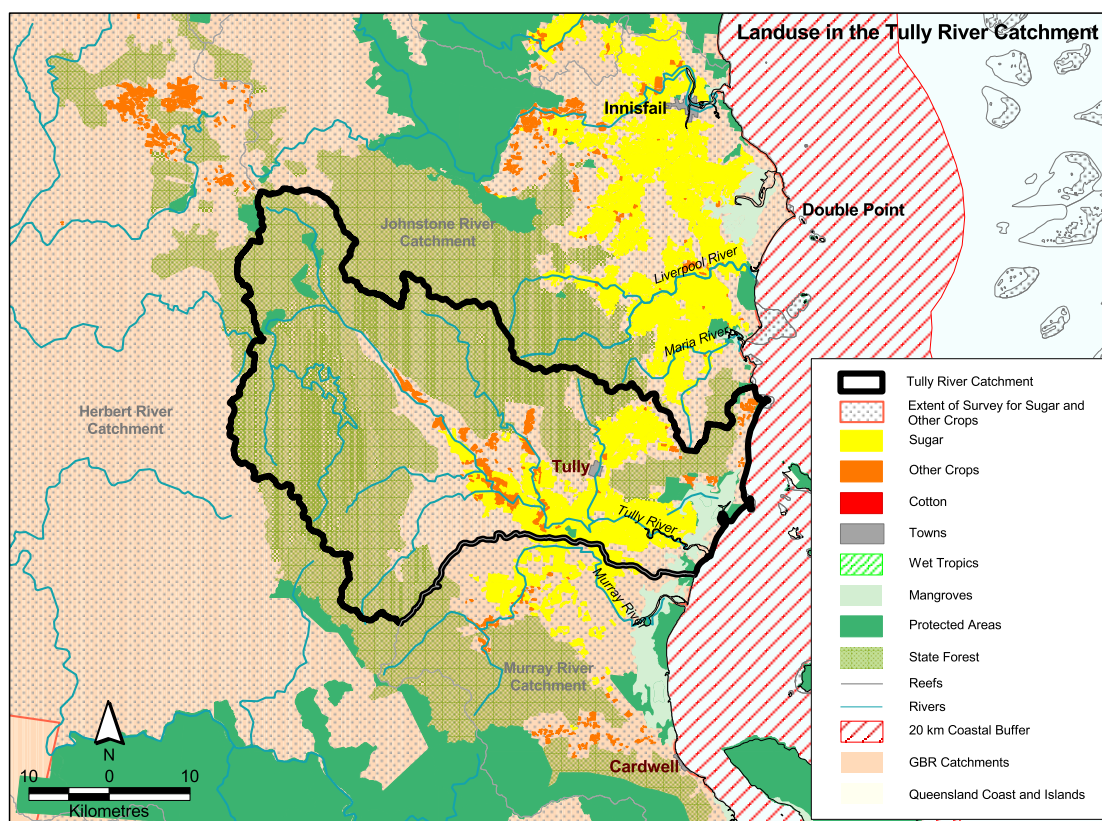
(Kg Active Ingredient/Yr)

Atrazine	22364
Diuron	2768
2-4D	9187
Chlorpyrifos	2941
MEMC	115

Catchment Targets

	1850 T/yr	Current T/yr	Current T/ km ³	ratio	2011 % Red'n	2011 T/yr Target	2011 T/ km ³ Target
Sediment Export	15000	88084	26748	5.9	33	59016	17921
Total N Export	442	1303	396	2.9	50	652	198
Total P Export	22	138	42	6.3	33	92	28

Data Confidence Index = 3



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The Tully River catchment covers an area of 1683 km². Approximately 1093 km² of the catchment is in the Wet Tropics World Heritage Area. State forests and timber reserves occupy 1030 km². Grazing occupies approximately 316 km². Other land uses include 247 km² sugarcane and 26 km² of horticultural land. Sediment and total phosphorus exports are classified as medium risk and total nitrogen export is classified as high risk in the Tully River catchment.

Issues in the catchment:

- The Tully River is subjected to frequent flooding. This has resulted in over-bank flows creating severe erosion problems on the lower and middle reaches of the rivers.
- Hydrological modification of the flood plain.
- Approximately 65% loss of coastal wetlands.
- Approximately 65% of the catchment is within protected areas.
- High contribution of nutrient (particularly nitrates) and pesticides.
- Close proximity to inshore reefal areas.
- Commercial and recreational fishery.
- Marine and land based tourism.

A collaborative program with the Tully Bureau of Sugar Experiment Stations (BSES) office was initiated in 1987 to measure nutrient levels at an upstream and downstream site in the Tully River, and at four further sites on Jarra, Boulder and Bauyan Creeks within the Tully catchment. Sampling was conducted at regular, monthly intervals and at periods through the wet season following large rainfall events. Sampling in the main river channel was continued for thirteen years to 2000 whilst other catchment sampling was terminated after eight years. This sampling program has provided valuable data on catchment inputs and allowed changes over time to be investigated. An AIMS river logger has been deployed at the Bruce Highway bridge over a number of wet seasons.

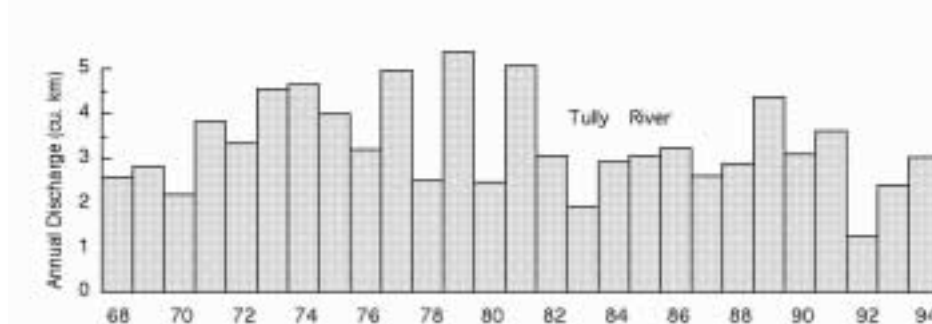


Figure 13. Water discharge patterns in the Tully River.